

CLAIMS

1/ A runner for a vehicle seat, the runner comprising a male bar and a female bar that are mounted to move relative to each other over a predetermined stroke (L),

5 the runner further comprising a detector (18) disposed on one of the male and female bars, and a detectable member (94) disposed on the other of the male and female bars, the detector (18) being adapted to detect the presence of the detectable member (94) while said detectable member

10 is situated in a first fraction (P_1) of said stroke (L) and the absence of said detectable member (94) while said detectable member is situated in a second fraction (P_2) of the stroke (L), the first and second fractions (P_1 , P_2) together defining the entire stroke (L) of the male and

15 female bars relative to each other;

said runner being characterized in that:

the male bar (9) is a generally channel section bar comprising a horizontal web (91) from which two substantially vertical side flanges (92) extend that are

20 extended outwards by lips (93), each lip (93) being provided with an edge (93b);

the female bar (8) is a generally channel section bar comprising a horizontal web (81) from which two side walls (8a) extend, each of which is formed by a

25 substantially vertical flange (82) which is extended by a flange lip (83) extending inwards and down towards the web (81) of said female bar (8), the lips (93) of the male bar (9) being received between the vertical flanges (82) and the lips (83) of the female bar (8), and the

30 lips (83) of the female bar (8) being received between the vertical flanges (92) and the lips (93) of the male bar (9);

the detectable member is formed by a tab (94) that is integral with or secured to the edge (93b) of one of

35 the lips (93) of the male bar; and

the corresponding side wall (8a) of the second bar (8) has an opening (86) disposed in correspondence with

the detector (18) adapted to detect the presence or the absence of the tab (94) of the male bar (9).

2/ A runner according to claim 1, in which at least part of the detector (18) is disposed in the opening (86) in the side wall (8a) of the female bar.

3/ A runner according to claim 1 or 2, in which the tab (94) extends longitudinally between two ends (94a, 94b), and the corresponding side wall (8a) of the second bar (8), which wall is provided with the opening, extends between two ends, each of which is provided with an abutment element serving to co-operate with the ends (94a, 94b) of the tab (94) to define said predetermined stroke (L) over which the male and female bars move relative to each other.

4/ A device according to any one of claims 1 to 3, in which the detector (18) comprises:

20 firstly an elastically-deformable member (20) having a first end (20a) secured to the side wall (8a) of the female bar (8), and a free second end (20b) disposed in the opening (86) of the female bar and in the vicinity of the edge (93b) of the male bar (9), the tab (94) of the male bar being disposed to move said free end (20b) by deforming the elastically-deformable member (20) when said tab is facing the detector; and

25 secondly, a sensor (21) suitable for detecting deformation of the elastically-deformable member (20) when the tab (94) of the male bar (9) moves the free end (20b) of said elastically-deformable member (20).

5/ A runner according to claim 4, in which the sensor (21) is mounted on a support member (19) that is fixed removably to the side wall (8a) of the female bar (8), said sensor (21) being disposed facing the opening (86) of the female bar (8).

6/ A runner according to any one of claims 1 to 3, in which the detector (18) comprises:

firstly, a pivotally-mounted element (34) having one end mounted to pivot on a separate support member (30) mounted on the female bar (8), and a free end disposed in the opening (86) in the female bar and in the vicinity of the edge (93b) of the male bar (9), the tab (94) of the male bar (9) being disposed to cause the free end of the pivotally-mounted element (34) to pivot when said tab (94) is facing the detector (18); and

secondly, a sensor mounted on the support member (30), the sensor being suitable for detecting pivoting of the pivotally-mounted element (34).

7/ A runner according to any one of claims 1 to 3, in which the detector (18) comprises:

at least one magnetic member (23) and excitation means (24) for generating a magnetic field in said magnetic member (23), said magnetic member (23) and the excitation means (24) being received, at least in part, in the opening (86) in the female bar, so as to cooperate with the tab (94) to define a magnetic circuit while said tab is present facing said magnetic member (23), said tab (94) being made of a material that is also magnetic; and

a Hall-effect probe (25) secured to the magnetic member (23), said probe (25) being organized to deliver a signal at least when said tab (94) is facing the magnetic member (23) by closing the magnetic circuit.

8/ A runner according to claim 7, in which the detector (18) is fixed to a support member (40) that is mounted on the side wall (8a) of the female bar (8) by clipping.

9/ A runner according to claim 8, in which the support member (40) is a generally channel section member comprising:

an intermediate plate (41) on which the detector (18) is mounted by being received in the opening (86) provided in the vertical flange (82) of the female bar;

an end plate (42) which extends from the intermediate plate (41) and which has a shape complementary to the shape of the lip (83) of said female bar (8); and

two clipping fingers (43) which extend from the intermediate plate (41), the two clipping fingers (43) being engaged in holes (88) provided in a wedge zone (87) situated between the web (81) of the female bar, and the corresponding vertical flange (82) of the female bar.

10/ A runner according to claim 9, in which the support member (40) further comprises a fold-over element (44) which connected to the intermediate plate (41) and which serves to be folded over between the two clipping fingers (43) and against the wedge zone (87) of the female bar (8), so as to lock the support member (40) onto the female bar after the clipping fingers (43) have been engaged in the corresponding holes (88).

11/ A vehicle seat including a seat proper (3) supported by at least one runner (7) according to any one of claims 2 to 10.

12/ A system for a vehicle, said system being characterized in that it comprises:

a vehicle seat (2) according to claim 11;
at least one actuator device (10) having two operating modes; and

a control device (15) connected to the detector (18) of the runner and suitable for causing the actuator device (10) to operate selectively in one or other of its

two operating modes depending on the position of the seat (2) relative to the floor of the vehicle as detected by the detector (18) of the runner.

- 5 13/ A system according to claim 12, in which the actuator device (10) is an airbag disposed to protect an occupant of the seat in the event of an accident, and the control device (15) is adapted to inflate the airbag (10) in the event of an accident.

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